

OFFICE OF AIR QUALITY
FIELD INSPECTION REPORT

4/27/07

SOURCE: U.S. Steel, Gary Works
Coke Battery No. 2
LOCATION: One North Broadway

PLANT ID NUMBER: 089-00121
INSPECTED BY: Dave Sampias
INSPECTION DATE: 7/11/07
TIME IN: 0730 TIME OUT: 1045
TIME IN: 2000 TIME OUT: 0200
REPORTED BY: Dave Sampias
REPORT DATE: 7/16/07
ACES Entered: Yes
ACES Number: #79019
Violation ACES Number: #79584

CITY: Gary

COUNTY: Lake

COMPLAINT INVESTIGATION: No

COMPLAINT NUMBER:

ATTAINMENT__ NONATTAINMENT: ☒ SO₂__ CO__ O₃ ☒ NO₂__ Pb__ PM 2.5 ☒ TSP__

PERMIT TYPE: ☒ TITLE V __ FESOP PERMIT NUMBER: T089-7663-00121

CHECK IF APPLICABLE: NSPS__ PSD__ NESHAP ☒ OTHER__ (please identify)_____

PERSONS/TITLE INTERVIEWED : Susan Grenzebach and Kevin Davis of OCS Environmental

OBJECTIVES: Compliance Monitoring Strategy
Multimedia Screening
Announced Inspection

Commitment ☒
Surveillance
Unannounced Inspection ☒

Were all relevant documents reviewed prior to the inspection: Yes ☒ If no, explain

DESCRIPTION OF SOURCE:

Coke Plant - Coke batteries produce coke from coal by heating the coal in the absence of oxygen and driving off the volatile compounds.

BACKGROUND:

Commitment inspection was conducted at the No. 2 Coke Battery on 8/10/06. There were no violations of air pollution rules observed or determined during this inspection.

Routine Pushing inspection was made on 1/23/2007. A violation letter was sent.

Title V Permit process started on 12/13/1996
Public Notice Ended on 4/02/05.
Target Issuance date is 8/30/2006

Permit put on Public Notice on 2/01/05
Purposed Permit sent to EPA for approval on 6/30/06.
Permit was issued on 8/18/2006 thru 8/18/2011

PROCESS EQUIPMENT:

A. Permit Section D.2 Coke Battery No. 2 coke production

1. Process Description: Pre-heated coal is charged into ovens heated by flues. The coal is heated for a predetermined time and temperature to produce the quality of coke needed for use in the Blast Furnaces. After the coking time is complete the coke is pushed out of the ovens into a quench car that takes the hot coke to the quench tower where it is currently quenched with distilled process water.

2. Equipment: Coke Battery (series of ovens), Charge car (charges coal into the ovens via chain conveyors), Pusher machine (removes pusher side door, pushes the coke out of the oven and levels the coal in the oven during charging), Door machine with coke guide (removes coke side door and guides the coke into the quench car), Quench car (catches the hot coke and transports it to the quench tower and after quenching, takes the quenched coke and dumps it at the wharf). Wharf (evenly distributes the coke on to a conveyor belt that delivers it to load out station), Load Out Station (loads railroad cars with coke for transportation to the blast furnaces).

(1) One (1) six (6) meter tall vertical flue coke battery with 57 ovens, No. 2 Coke Battery, identified as CP2B0079, constructed in November 1975, with a maximum charging capacity of 217 tons per hour. Excessive coke oven gas back pressure is controlled by three (3) flares lit with internal flare igniters CP3060, CP3061 and CP3062, exhausting to Bypass/Bleeder Flare Stacks CP6105, CP6106 and CP6107.

(2) The No. 2 Coke Battery underfiring system has a maximum combustion heat input capacity of 250 MMBtu per hour, exhausting to stack CP6040 equipped with a continuous opacity monitor (COM).

(3) The No. 2 Coke Battery has a maximum pushing capacity of 161 tons of coke per hour, with particulate emissions controlled by a Mobile Scrubber Car 9119, 9120, 9121 or 9122, identified as CP3034, exhausting to Stack CP6041.

(4) Nos. 2 and 3 Quench Towers identified as CP1Q0080 and CP2Q0081, constructed in 1975, with a maximum combined capacity of 322 tons of coke per hour, and No. 1 Quench Tower identified as CPQ0087 constructed in 1975 with a capacity of 322 tons of coke per hour, each equipped with a quench water header and baffle system with sprays. Nos. 2 and 3 Quench Towers service Nos. 2 and 3 Coke Batteries. No.1 Quench Tower services Nos. 2, 3, 5 and 7 Coke Batteries.

(5) The No. 2 Coke Battery fugitive emissions are generated from charging operations, off take piping, door leaks, lid leaks and collector main leaks.

3. Pollutants Emitted: PM, PM 2.5, CO, SO₂, Benzene

4. Control Equipment: Collection hood and scrubber

Control Equipment/Identification	Exhaust to:
Collection hood	Atmosphere
Scrubber	Atmosphere

5. Applicable Rules: National Emission Standards for Hazardous Air Pollutants (NESHAP)- Coke Oven Batteries [326 IAC 20-3] [40 CFR Part 63, Subpart L]
326 IAC 6.8-2; Lake County PM10 Emission Requirements
326 IAC 11-3-2; Emission Limitations for Coke oven Batteries
326 IAC 20-3; Coke Oven Batteries
326 IAC 6.8-9; Lake County PM10 Coke Battery Emission Requirements
326 IAC 7-4-.1-20; Lake County Sulfur Dioxide Emission Limitations

6. Observations: Susan Grenzebach and Kevin Davis from OCS Environmental accompanied me during the morning inspection of No.2 coke battery. During this part of the

inspection I observed four (4) pushes. Early evening I returned to finish my inspection and was accompanied by Kevin Davis.

Charging Observations

Observations were performed on oven nos. 41, 43, 49, 51 and 53, which resulted in a cumulative total of 23.0 seconds for five consecutive charges.

Pushing Emissions Evaluation

Observations were performed on oven nos. 12, 14, 16 and 18 (see attached sheet). Observation was made at ground level from the coke side of #2 Battery. During this observation, there were three (3) violations of the 20% opacity limit.

Door Emissions

There are 114 total battery doors. At 2029 hours seventeen doors were blocked by machinery and six ovens were out of service. Ten of the 85 observed doors were leaking, which equals eleven point seven percent (11.7%) leakage. This is a violation of the 10% leaking door limit.

Off-take piping Emissions

None of the 97 observed off-take assemblies were leaking, which resulted in zero percent (0%) leakage.

Charging port lids

None of the 204 observed lids were leaking, which resulted in zero percent (0%) leakage.

Emission Limit/Standard	<p>D.2.1 General Provisions relating to National Emission Standards for Hazardous Air Pollutant (NESHAP) [326 IAC 20-3][40 CFR Part 63, Subpart A] [40 CFR 63 Subpart L] [Table 1 of 40 CFR 63 Subpart CCCCC]</p> <p>(a) The provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 20-3, apply to Battery 2, Battery 3, Battery 5 and Battery 7, except when otherwise specified in 40 CFR Part 63, Subpart L.</p> <p>(b) The provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 20-1-1, apply to Battery 2, Battery 3, Battery 5 and Battery 7, except when otherwise specified in Table 1 of 40 CFR Part 63, Subpart CCCCC.</p> <p>D.2.2 National Emission Standards for Hazardous Air Pollutants (NESHAP)-Coke Oven Batteries [326 IAC 20-3] [40 CFR Part 63, Subpart L]</p> <p>(a) Pursuant to 40 CFR 63.304, the Permittee shall not cause to be discharged or allow to be discharged to the atmosphere coke oven emissions. Each coke oven battery CP2B0079, CP3B0086, CP5B0090 and CP7B0094 shall not exceed the following emission limitations or requirements:</p> <p>(1) Four and three-tenths percent (4.3%) leaking coke oven doors for each</p>
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	<p>tall 6 meter by-product coke oven battery, based on a 30-day rolling average in accordance with 40 CFR 63, Appendix A, Method 303.</p> <p>(2) Three and eight-tenths percent (3.8%) leaking coke oven doors for each short 3 meter by-product coke oven based on a 30-day rolling average in accordance with 40 CFR 63, Appendix A, Method 303.</p> <p>(3) Four-tenths percent (0.4%) leaking topside port lids, based on a 30-day rolling average in accordance with 40 CFR 63, Appendix A, Method 303.</p> <p>(4) Two and five-tenths percent (2.5%) leaking off take systems, based on a 30-day rolling average in accordance with 40 CFR 63, Appendix A, Method 303.</p> <p>(5) Twelve (12) seconds of visible emissions per charge, based on a 30-day rolling average in accordance with 40 CFR 63, Appendix A, Method 303.</p> <p>(6) On or after January 1, 2010, unless the US EPA or IDEM, OAQ promulgates more stringent limits pursuant to section 112(i)(8)(C) of Clean Air Act (CAA); the limit for each tall 6-meter by-product coke oven battery, shall be four percent (4%) leaking coke oven doors and the limit for each short 3-meter coke oven battery shall be three and three-tenths (3.3%) leaking coke oven doors, based on a 30-day rolling average in accordance with 40 CFR 63, Appendix A, Method 303.</p> <p>(b) Pursuant to 40 CFR 63.306, Work Practice Standards, the Permittee shall maintain, a written emission control work practice plan for each coke oven battery. The plan shall be designed to achieve compliance with visible emission limitations for coke oven doors, topside port lids, off take systems, and charging operations under 40 CFR 63 Subpart L.</p> <p>(1) The work practice plan must address each of the topics specified in paragraph (4) below in sufficient detail and with sufficient specificity to allow the IDEM, OAQ to evaluate the plan for completeness and enforceability.</p> <p>(2) The IDEM, OAQ may require revisions to the initial plan only where the IDEM, OAQ finds either that the plan does not address each subject area listed in paragraph (4) of D.2.2(b) for each emission point subject to a visible emission standard under 40 CFR 63 Subpart L or that the plan is unenforceable because it contains requirements that are unclear.</p> <p>(3) During any period of time that a Permittee is required to implement the provisions of a plan for a particular emission point, the failure to implement one or more obligations under the plan and/or any record keeping requirement(s) under 40 CFR 63.311(f)(4) for the emission point during a particular day is a single violation.</p> <p>(4) Plan components. The Permittee shall organize the work practice plan to indicate clearly which parts of the plan pertain to each emission point subject</p>
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	<p>to visible emission standards under this subpart. Each of the following provisions, at a minimum, shall be addressed in the plan:</p> <p>(A) An initial and refresher training program for all coke plant operating personnel with responsibilities that impact emissions, including contractors, in job requirements related to emission control and the requirements of this subpart, including work practice requirements. Contractors with responsibilities that impact emission control may be trained by The Permittee or by qualified contractor personnel; however, the Permittee shall ensure that the contractor training program complies with the requirements of this section. The training program in the plan must include:</p> <ul style="list-style-type: none"> (i) A list, by job title, of all personnel that are required to be trained and the emission point(s) associated with each job title; (ii) An outline of the subjects to be covered in the initial and refresher training for each group of personnel; (iii) A description of the training method(s) that will be used (e.g., lecture, video tape); (iv) A statement of the duration of initial training and the duration and frequency of refresher training; (v) A description of the methods to be used at the completion of initial or refresher training to demonstrate and document successful completion of the initial and refresher training; and (vi) A description of the procedure to be used to document performance of plan requirements pertaining to daily operation of the coke oven battery and its emission control equipment, including a copy of the form to be used, if applicable, as required under the plan provisions implementing paragraph 40 CFR 63.306(b)(7). <p>(B) Procedures for controlling emissions from coke oven doors on by-product coke oven batteries, including:</p> <ul style="list-style-type: none"> (i) A program for the inspection, adjustment, repair, and replacement of coke oven doors and jambs, and any other equipment for controlling emissions from coke oven doors, including a defined frequency of inspections, the method to be used to evaluate conformance with operating specifications for each type of equipment, and the method to be used to audit the effectiveness of the inspection and repair program for preventing exceedances; (ii) Procedures for identifying leaks that indicate a failure of the emissions control equipment to function properly, including a clearly defined chain of command for communicating information on leaks and procedures for corrective action;
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	<p>(iii) Procedures for cleaning all sealing surfaces of each door and jamb, including identification of the equipment that will be used and a specified schedule or frequency for the cleaning of sealing surfaces;</p> <p>(iv) For batteries equipped with self-sealing doors, procedures for use of supplemental gasketing and luting materials, if the Permittee elects to use such procedures as part of the program;</p> <p>(v) For batteries equipped with hand-luted doors, procedures for luting and reluting, as necessary to prevent exceedances;</p> <p>(vi) Procedures for maintaining an adequate inventory of the number of spare coke oven doors and jambs located onsite; and</p> <p>(vii) Procedures for monitoring and controlling collecting main back pressure, including corrective action if pressure control problems occur.</p> <p>(C) Procedures for controlling emissions from charging operations on by-product coke oven batteries, including:</p> <p>(i) Procedures for equipment inspection, including the frequency of inspections, and replacement or repair of equipment for controlling emissions from charging, the method to be used to evaluate conformance with operating specifications for each type of equipment, and the method to be used to audit the effectiveness of the inspection and repair program for preventing exceedances;</p> <p>(ii) Procedures for ensuring that the larry car hoppers are filled properly with coal;</p> <p>(iii) Procedures for the alignment of the larry car over the oven to be charged;</p> <p>(iv) Procedures for filling the oven (e.g., procedures for staged or sequential charging);</p> <p>(v) Procedures for ensuring that the coal is leveled properly in the oven; and</p> <p>(vi) Procedures and schedules for inspection and cleaning of offtake systems (including standpipes, standpipe caps, goosenecks, dampers, and mains), oven roofs, charging holes, topside port lids, the steam supply system, and liquor sprays.</p> <p>(D) Procedures for controlling emissions from topside port lids on by-product coke oven batteries, including:</p> <p>(i) Procedures for equipment inspection and replacement or repair of topside port lids and port lid mating and sealing surfaces, including the frequency of</p>
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	<p>inspections, the method to be used to evaluate conformance with operating specifications for each type of equipment, and the method to be used to audit the effectiveness of the inspection and repair program for preventing exceedances; and</p> <p>(ii) Procedures for sealing topside port lids after charging, for identifying topside port lids that leak, and procedures for resealing.</p> <p>(E) Procedures for controlling emissions from off take system(s) on by-product coke oven batteries, including:</p> <p>(i) Procedures for equipment inspection and replacement or repair of off take system components, including the frequency of inspections, the method to be used to evaluate conformance with operating specifications for each type of equipment, and the method to be used to audit the effectiveness of the inspection and repair program for preventing exceedances;</p> <p>(ii) Procedures for identifying off take system components that leak and procedures for sealing leaks that are detected; and</p> <p>(F) Procedures for dampering off ovens prior to a push.</p> <p>(G) Procedures for maintaining, for each emission point subject to visible emission limitations under this subpart, a daily record of the performance of plan requirements pertaining to the daily operation of the coke oven battery and its emission control equipment, including:</p> <p>(i) Procedures for recording the performance of such plan requirements; and</p> <p>(ii) Procedures for certifying the accuracy of such records by the Permittee.</p> <p>(H) Any additional work practices or requirements specified by the IDEM, OAQ, according to 40 CFR 63.306(d).</p> <p>(5) Implementation of work practice plans. The Permittee shall implement the provisions of the coke oven emission control work practice plan according to the following requirements:</p> <p>(A) The Permittee shall Implement the provisions of the work practice plan pertaining to a particular emission point following the second independent exceedance of the visible emission limitation for the emission point in any consecutive 6-month period, by no later than 3 days after receipt of written notification of the second such exceedance from the certified observer. For the purpose of this 40 CFR 63.306(c)(1)(i), the second exceedance is ``independent'' if either of the following criteria is met:</p> <p>(i) The second exceedance occurs 30 days or more after the first exceedance;</p> <p>(ii) In the case of coke oven doors, topside port lids, and off take systems,</p>
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	<p>the 29-run average, calculated by excluding the highest value in the 30-day period, exceeds the value of the applicable emission limitation; or</p> <p>(iii) In the case of charging emissions, the 29-day logarithmic average, calculated in accordance with Method 303 in appendix A to 40 CFR 63 by excluding the valid daily set of observations in the 30-day period that had the highest arithmetic average, exceeds the value of the applicable emission limitation.</p> <p>(B) Continue to implement such plan provisions until the visible emission limitation for the emission point is achieved for 90 consecutive days if work practice requirements are implemented pursuant to 40 CFR 63.306(c)(1)(i). After the visible emission limitation for a particular emission point is achieved for 90 consecutive days, any exceedances prior to the beginning of the 90 days are not included in making a determination 40 CFR 63.306(c)(1)(i)</p> <p>(6) Revisions to the work practice emission control plan will be governed by the following provisions in 40 CFR 63.306(d) and (a)(2).</p> <p>(A) The IDEM, OAQ may request the Permittee to review and revise as needed the work practice emission control plan for a particular emission point if there are 2 exceedances of the applicable visible emission limitation in the 6-month period that starts 30 days after the Permittee is required to implement work practices under 40 CFR 63.306(c). In the case of a coke oven battery subject to visual emission limitations under this subpart, the second exceedance must be independent under the criteria in 40 CFR 63.306(c)(1)(i).</p> <p>(B) The IDEM, OAQ may not request the Permittee to review and revise the plan more than twice in any 12 consecutive month period for any particular emission point unless the IDEM, OAQ disapprove the plan according to the provisions of 40 CFR 63.306(d)(6).</p> <p>(C) If the certified observer calculates that a second exceedance (or, if applicable, a second independent exceedance) has occurred, the certified observer shall notify the Permittee. No later than 10 days after receipt of such a notification, the Permittee shall notify the IDEM, OAQ of any finding of whether work practices are related to the cause or the solution of the problem. This notification is subject to review by the IDEM, OAQ, according to the provisions in 40 CFR 63.306(d)(6).</p> <p>(D) The Permittee shall submit a revised work practice plan within 60 days of notification from the IDEM, OAQ pursuant to 40 CFR 63.306(d)(1) unless IDEM, OAQ grants an extension of time to submit the revised plan.</p> <p>(E) If the IDEM, OAQ require a plan revision, the IDEM, OAQ may require the plan to address a subject area or areas in addition to those in 40 CFR 63.306(b), if the IDEM, OAQ determine that without plan coverage of such</p>
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an additional subject area, there is a reasonable probability of further exceedances of the visible emission limitation for the emission point for which a plan revision is required.

(F) The IDEM, OAQ may disapprove a plan revision required under 40 CFR 63.306(d) if the IDEM, OAQ determine that the revised plan is inadequate to prevent exceedances of the visible emission limitation under 40 CFR 63 Subpart L for the emission point for which a plan revision is required. The IDEM, OAQ may also disapprove the finding that may be submitted pursuant to the 40 CFR 63.303(d)(3) if the IDEM, OAQ determine that a revised plan is needed to prevent exceedances of the applicable visible emission limitations.

(c) Pursuant to 40 CFR 63.307 Standards for Bypass/Bleeder Stacks, the Permittee shall do the following:

(1) Install a bypass/bleeder stack flare system that is capable of controlling 120 percent of the normal gas flow generated by the battery, which shall thereafter be operated and maintained.

(2) Coke oven emissions shall not be vented to the atmosphere through bypass/bleeder stacks, except through the flare system.

(3) Each flare shall be designed for a net heating value of 8.9 MJ/scm (240 Btu/scf) if a flare is steam-assisted or air-assisted, or a net value of 7.45 MJ/scm (200 Btu/scf) if the flare is non-assisted.

(4) Each flare shall have either a continuously operable pilot flame or an electronic igniter that meets the requirements of D.2.2 (c)(5) and (6) below.

(5) Each electronic igniter shall meet the following requirements:

(A) Each flare shall be equipped with at least two igniter plugs with redundant igniter transformers;

(B) The ignition units shall be designed failsafe with respect to flame detection thermocouples (i.e., any flame detection thermocouples are used only to indicate the presence of a flame, are not interlocked with the ignition unit, and cannot deactivate the ignition system); and

(C) Integral battery backup shall be provided to maintain active ignition operation for a minimum of 15 minutes during a power failure.

(D) Each electronic igniter shall be operated to initiate ignition when the bleeder valve is not fully closed as indicated by an "OPEN" limit switch.

(6) Each flare constructed that does not have an electronic igniter shall be operated with a pilot flame present at all times as determined by 40 CFR 63.309 (h)(2).

	<p>(7) Each flare constructed to meet the requirements of 40 CFR 63.307(b) shall be operated with no visible emissions, as determined by the methods specified in 40 CFR 63.309 (h)(1), except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.</p> <p>(d) Pursuant to 40 CFR 63.308 Standards for collecting mains, the Permittee shall do the following:</p> <p>(1) Inspect the coke oven battery collecting main for leaks at least once daily in accordance with 40 CFR 63, Appendix A, Method 303.</p> <p>(2) Record the time and date a leak is first observed, the time and date the leak is temporarily sealed, and the time and date of repair.</p> <p>(3) Temporarily seal any leak in the collecting main as soon as possible after detection, but no later than 4 hours after detection of the leak.</p> <p>(4) Initiate a collecting main repair as expeditiously as possible, but no later than 5 calendar days after initial detection of the leak. The repair shall be completed within 15 calendar days after initial detection of the leak unless an alternative schedule is approved by the IDEM, OAQ.</p> <p>(e) Pursuant to 40 CFR 63.310, (Requirements for startups, shut downs and malfunctions) the Permittee shall do the following:</p> <p>(1) Operate and maintain the coke oven batteries and their pollution control devices at all times including periods of startup, shut down and malfunction in a manner consistent with good air pollution control practices for minimizing emissions to the levels required by any applicable performance standards under 40 CFR 63, Subpart L. Failure to adhere to these requirements shall not constitute a separate violation, if a violation of an applicable performance or work practice standard has also occurred.</p> <p>(2) Develop and implement a written startup, shut down and malfunction plan that describes procedures for operating the batteries, including associated control equipment, during a period of a startup, shutdown or malfunction in a manner consistent with good air pollution control practices for minimizing emissions, and procedures for correcting malfunctioning process and control equipment as quickly as practicable.</p> <p>(3) During a period of startup, shutdown or malfunction the Permittee shall do the following:</p> <p>(A) Operate the coke batteries and their control devices according to the procedures in the startup, shut down and malfunction plan.</p> <p>(B) Malfunctions shall be corrected as soon as practicable after their occurrence, in accordance with the Startup Shutdown and Malfunction (SSM)</p>
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	<p>plan.</p> <p>(C) In order for the provisions of D.2.2(e)(3)(H) to apply with respect to the observation or set of observations for a particular day, notification of a startup, shutdown or malfunction shall be made by the Permittee as follows:</p> <p>(i) If practicable, to the certified observer, if the observer is at the facility during the occurrence; or</p> <p>(ii) To the enforcement agency, in writing, within 24 hours of the occurrence first being documented by a company employee, and if the certified observer is not notified, an explanation of why the certified observer was not notified.</p> <p>(D) The Permittee shall submit a written report to the IDEM within 14 days of a startup, shutdown or malfunction that describes the following:</p> <p>(i) The time and circumstances of the startup, shutdown or malfunction, and</p> <p>(ii) Actions taken that might be considered inconsistent with the startup, shutdown or malfunction plan.</p> <p>(E) Maintain a record of internal reports which form the basis of each malfunction notification.</p> <p>(F) The Permittee may use the standard operating procedures manual for the batteries, to satisfy the requirements to develop a startup, shutdown or malfunction plan provided the manual meets all the requirements for the SSM plan and is made available for inspection at reasonable times when requested by the IDEM, OAQ.</p> <p>(G) IDEM may require reasonable revisions of the startup, shutdown or malfunction plan if the plan:</p> <p>(i) Does not address a startup, shutdown or malfunction event that has occurred;</p> <p>(ii) Fails to provide for the operation of the source (including associated air pollution control equipment) during a startup, shutdown or malfunction event in a manner consistent with good air pollution control practices for minimizing emissions; or</p> <p>(iii) Does not provide adequate procedures for correcting malfunctioning process and/or air pollution control equipment as quickly as practicable.</p> <p>(H) If the Permittee demonstrates to the satisfaction of the IDEM, OAQ that a startup, shutdown, or malfunction has occurred, then an observation occurring during such startup, shutdown, or malfunction shall not:</p> <p>(i) Constitute a violation of relevant requirements of 40 CFR 63, Subpart L.</p>
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(ii) Be used in any compliance determination under 40 CFR 63.309; or

(iii) Be considered for purposes of 40 CFR 63.306, until the IDEM, OAQ have resolved the claim that a startup, shutdown, or malfunction has occurred. If the IDEM, OAQ determines that a startup, shutdown, or malfunction has not occurred, such observations may be used for purposes of 40 CFR 63.306, regardless of whether the Permittee further contests such determination. The Permittee's receipt of written notification from the IDEM, OAQ, that a startup, shutdown, or malfunction has not occurred will serve, where applicable under 40 CFR 63.306, as written notification from the certified observer that an exceedance has occurred.

D.2.3 Lake County PM10 Emission Requirements [326 IAC 6.8-2-38] [326 IAC 6.8-9-3(a)(8)] [326 IAC 11-3-2(i)]

Pursuant to 326 IAC 6.8-2-38, 326 IAC 6.8-9-3(a)(8) and 326 IAC 11-3-2(i), the PM10 emissions from the Nos. 2, 3, 5 and 7 Coke Battery underfiring stacks and Coke Batteries 5/7 baghouse stack CP6050 shall comply with the following:

(a) The PM10 emissions from the Coke Battery number 2 underfiring stack CP6040 shall not exceed 32.30 pounds per hour.

(b) The PM10 emissions from the Coke Battery number 3 underfiring stack CP6045 shall not exceed 25.50 pounds per hour.

(c) The PM10 emissions from the Coke Battery number 5 underfiring stack CP6049 shall not exceed 24.70 pounds per hour.

(d) The PM10 emissions from the Coke Battery number 7 underfiring stack CP6053 shall not exceed 21.30 pounds per hour.

(e) The PM10 emissions from the Coke Battery number 5/7 pushing emissions control baghouse shall not exceed 0.017 pound PM10 per ton coke produced and 1.28 pounds per hour.

(f) Each emission limit applies to one (1) stack serving one (1) facility unless otherwise noted. The emissions limitations apply to one (1) stack serving the multiple units specified when the facility description notes stack serving, and to each stack of multiple stacks serving multiple facilities when the facility description notes each stack serving.

D.2.4 Lake County PM10 Coke Battery Emission Requirements [326 IAC 6.8-9]

The Coke Batteries Nos. 2, 3, 5 and 7 shall comply with the following:

(a) Pursuant to 326 IAC 6.8-9-3(a)(1), no visible emissions shall be permitted from more than ten percent (10%) of the observed coke oven doors on any coke oven battery.

	<p>(b) Pursuant to 326 IAC 6.8-9-3(a)(2), the visible emissions from the charging operations shall comply with the following:</p> <p>(1) No visible emissions shall be permitted from the charging system for more than cumulative total of one hundred twenty-five (125) seconds during five (5) consecutive charging periods.</p> <p>(2) A "charging system" means the equipment required to add coal to a coke battery including a larry car, charge ports, jumper pipe and off take pipe.</p> <p>(c) Pursuant to 326 IAC 6.8-9-3(a)(3), the emissions from the pushing operations shall comply with the following:</p> <p>(1) The opacity of emissions from the coke-side of an oven to be pushed, before the first movement of the coke from the oven to the coke car begins, shall not exceed twenty percent (20%).</p> <p>(2) The opacity of emissions during the pushing operation shall not exceed twenty percent (20%). The pushing shall be considered to begin with the first movement of coke from the oven into the coke car and to end when the quench car enters the quench tower. The opacity shall be determined using 40 CFR 60, Appendix A, Method 9, except that the readings shall be taken at fifteen (15) second intervals. Six (6) consecutive readings shall be averaged to determine the opacity. The observer shall only use those backgrounds that are above the elevation of the battery surface. If this condition cannot be met for six (6) consecutive readings, then the opacity shall be determined using the lesser number of consecutive readings.</p> <p>(3) The particulate emissions from the pushing control devices: No. 2 and No.3 Batteries Mobile scrubber cars Nos. 9119, 9120, 9121, and 9122 and No. 5 and No. 7 Coke Batteries Pushing Process Baghouse Stack CP6050 shall not exceed four-hundredths (0.04) pound per ton of coke pushed.</p> <p>(d) Pursuant to [326 IAC 6.8-9-3(a)(4), no visible emissions shall be permitted from more than three percent (3%) of the total charge port lids on operating ovens of a coke oven battery.</p> <p>(e) Pursuant to 326 IAC 6.8-9-3(a)(5), visible emissions from the Off take Piping shall comply with the following:</p> <p>(1) No visible emissions shall be permitted from more than five percent (5%) of the total off take piping on any coke oven battery.</p> <p>(2) At no time, shall the visible emissions from any gooseneck cap opening exceed twenty percent (20%).</p> <p>(3) An exclusion from the twenty percent (20%) gooseneck cap opacity limit shall be allowed for two (2) minutes after a gooseneck cap is opened.</p>
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	<p>(f) Pursuant to 326 IAC 6.8-9-3(a)(6), emissions from gas collector mains shall comply with the following:</p> <p>(1) No visible emissions shall be permitted from the gas collector mains.</p> <p>(2) Caps on the collector main shall be exempt from requirement during maintenance.</p> <p>(g) Pursuant to 326 IAC 6.8-9-3(a)(7)(A), the quench water as applied to the coke shall not exceed one thousand five hundred (1,500) milligrams per liter of total dissolved solids (TDS).</p> <p>(h) Pursuant to 326 IAC 6.8-9-3(a)(7)(B), the Permittee shall submit the following information regarding its quenching operation in a CCP required to be submitted by 326 IAC 6.8-8-1:</p> <p>(1) The source of quench water, for example, Lake Michigan water only, or a mixture of Lake Michigan water, spent quench water, process water and miscellaneous sources of non process water.</p> <p>(2) The volume of quench water and proportion of each source of water.</p> <p>(i) Pursuant to 326 IAC 6.8-9-3(a)(7)(C), all coke oven towers shall be equipped with baffles. Baffles shall cover ninety-five percent (95 %) or more of the cross-sectional area of the exhaust vent or stack for straight quench towers and must be maintained in operable condition. For offset quench towers numbers 2 and 3 at US Steel, the number and arrangement of baffles in the tower shall be maintained as designed. Compliance with the quench tower baffle requirement shall be determined by comparison of the number and arrangement of baffles with the submitted plans.</p> <p>D.2.5 Emission Limitations for Coke Oven Batteries [326 IAC 11-3-2] The Coke Batteries Nos. 2, 3, 5 and 7 shall each comply with the following requirements:</p> <p>(a) Pursuant to 326 IAC 11-3-2(b), the visible emissions from the charging system (including any open charge port, off take system, mobile jumper pipe or larry car) shall not be visible for more than a cumulative total of one hundred twenty-five (125) seconds during five (5) consecutive charging periods.</p> <p>(b) Pursuant to 326 IAC 11-3-2(c), visible emissions shall not be permitted from more than three percent (3 %) of the total charge port lids.</p> <p>(c) Pursuant to 326 IAC 11-3-2(d), no visible emissions shall be permitted from more than five percent (5 %) of the total off take piping on any coke oven battery.</p> <p>(d) Pursuant to 326 IAC 11-3-2(e), no visible emissions shall be permitted</p>
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	<p>from gas collector main on any coke oven battery.</p> <p>(e) Pursuant to 326 IAC 11-3-2(f), visible emissions shall not be permitted from more than ten percent (10%) of the total coke oven doors on any coke oven battery.</p> <p>(f) Pursuant to 326 IAC 11-3-2(g), the coke oven batteries pushing emissions requirements shall be as follows:</p> <p>(1) All coke oven batteries shall be equipped with a device capable of capturing and collecting coke-side particulate matter such that the effluent gas emissions contain no more than four-hundredths (0.04) gram per two (2.0) kilogram of coke pushed.</p> <p>(2) Such devices shall be designed and operated in compliance with an operating permit to collect ninety percent (90%) of the pushing emissions. If the construction and design of the device have been approved by the commissioner by granting the permit, the device, if operated properly in compliance with the permit conditions, will be assumed to be collecting ninety percent (90%) of the pushing emissions.</p> <p>(g) Pursuant to 326 IAC 11-3-2(h)(1), the Nos. 1, 2, 3, 5 and 6 quench towers shall not have visible emissions from the quenching of coke with the direct application of water to hot coke unless quenching is conducted under a tower equipped with efficient baffles to impede the release of particulate into the atmosphere. Efficient baffles are baffles taking the form of slats, louvers, screens, or other impediments placed in a configuration within a quench tower to force a change of direction and reduction of velocity of the steam plume to aid in the reduction of particulate matter emitted.</p> <p>(h) Pursuant to 326 IAC 11-3-2(h)(2), the quench water makeup shall not contain a total dissolved solids content of more than one thousand five hundred (1,500) milligrams per liter.</p> <p>(i) Pursuant to 326 IAC 11-3-2(i), the visible emissions and particulate emissions from the underfire stacks shall comply with the requirements of Conditions C.1 and D.2.4 of this permit.</p> <p>D.2.6 Coke Oven Identification [326 IAC 11-3-3] Pursuant to 326 IAC 11-3-3, the Permittee shall maintain the identity of each coke oven in such a manner that it is easily and readily visible from the topside and on each coke and push-side on every coke oven battery.</p> <p>D.2.7 Sulfur Dioxide (SO₂) Limitations [326 IAC 7-4.1-20] [326 IAC 11-3-2(i)] Pursuant to 326 IAC 7-4.1-20(a)(1)(D), the SO₂ emissions from the Coke Battery underfiring stacks CP6040, CP6045, CP6049 and CP6043 for Nos. 2, 3, 5 and 7 coke batteries shall not exceed the following:</p>
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	<p>(a) Pursuant to 326 IAC 7-4.1-20(a)(1)(D), during periods when the coke oven gas desulfurization unit is not operating:</p> <p>(b) Pursuant to 326 IAC 7-4.1-20(b)(4), during periods when the coke oven gas desulfurization unit is operating:</p> <p>D.2.8 Nitrogen Oxide (NOx) Limitations PSD [326 IAC 2-2] and Emissions Offsets [326 IAC 2-3]</p> <p>Pursuant to the Significant Source Modification 089-12880-00121, issued July 26, 2001, the Natural gas usage injected through the coke oven battery natural gas injection jets CPNGI001, CPNGI002 and CPNGI003 shall not exceed 178.7 million cubic feet (MMCF) per 12-consecutive month period, with compliance demonstrated at the end of each month. Compliance with this limit makes 326 IAC 2-2 PSD and 326 IAC 2-3 not applicable for the modification.</p> <p>D.2.9 Preventive Maintenance Plan [326 IAC 2-7-5(13)]</p> <p>A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and any associated control devices.</p>
Prev. Maint. Plan	Prepared: yes Available on Site: yes Adequate: yes
Comp. Resp. Plan	Prepared: Available on Site: Adequate: NA: X
Stack Testing Reqmnts	<p>D.2.16 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]</p> <p>(b) Within thirty (30) months after issuance of this permit or five (5) years from the date of the latest valid compliance demonstration, which ever is earlier, in order to demonstrate compliance with Condition D.2.3, the Permittee shall perform PM10 testing on the No. 2, No. 3, No.5 and No. 7 coke batteries underfire Stacks CP6040, CP6045, CP6049 and CP6053, using the appropriate methods to measure PM10 as listed in 326 IAC 6.8-4-1(1) or other methods approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. All tests shall be performed in accordance with Section C - Performance Testing.</p>
Comp. Monitoring	<p>D.2.19 Visible Emissions Notations</p> <p>(a) Visible emission notations of the No. 2 and No.3 Coke Oven Battery: mobile scrubber cars 9119, 9120, 9121 and 9122 and the No. 5 and No. 7 Coke Oven Battery: pushing bag house stack CP6050 shall be performed once per day during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.</p> <p>(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.</p> <p>(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.</p>

	<p>(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.</p> <p>(e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation of this permit.</p> <p>(f) The Permittee shall comply with the most current Continuous Compliance Plan visible emission evaluation program, in accordance with Section C- Continuous Compliance Plan.</p> <p>D.2.20 Parametric Monitoring</p> <p>(a) The Permittee shall record the pressure drop across the baghouse CP3041 used in conjunction with No. 5 and No. 7 coke oven batteries pushing operations at least once per day when pushing is occurring. When for any one reading, the pressure drop across each baghouse is outside the normal range of 3 to 15 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation of this permit.</p> <p>(b) The Permittee shall comply with the most current Continuous Compliance Plan for the baghouse operation, recording and maintenance, in accordance with Section C Continuous Compliance Plan.</p> <p>(c) The instrument used for determining the pressure shall comply with Section C -Instrument Specifications of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated at least once every six (6) months.</p> <p>D.2.21 Continuous Opacity Monitoring (COM) [326 IAC 3-5]</p> <p>Pursuant to 326 IAC 3-5, the continuous monitoring system shall be calibrated, maintained and operated to measure the opacity of the exhaust from the Nos. 2, 3, 5 and 7 Coke Battery underfiring stacks CP6040, CP6045, CP6049 and CP6053. The continuous opacity monitoring system shall be certified in accordance with and meet the performance specifications of 326 IAC 3-5-2.</p> <p>D.2.22 Maintenance of Continuous Opacity Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)]</p> <p>(a) The Permittee shall install, calibrate, maintain, and operate all necessary continuous opacity monitoring systems (COMS) and related equipment.</p>
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	<p>(b) All COMS shall meet the performance specifications of 40 CFR 60, Appendix B, Performance Specification No. 1, and are subject to monitor system certification requirements pursuant to 326 IAC 3-5.</p> <p>(c) In the event that a breakdown of a COMS occurs, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem.</p> <p>(d) Whenever a COMS is malfunctioning or is down for maintenance, or repairs for a period of twenty four (24) hours or more, and a backup COMS is not on line within twenty-four (24) hours of shutdown or malfunction of the primary COMS, the Permittee shall provide a certified opacity reader, who may be an employee of the Permittee or an independent contractor, to self-monitor the emissions from the emission unit stack.</p> <p>(1) Visible emission readings shall be performed in accordance with 40 CFR 60, Appendix A, Method 9, for a minimum of five (5) consecutive six (6) minute averaging periods beginning not more than twenty-four (24) hours after the start of the malfunction or down time.</p> <p>(2) Method 9 opacity readings shall be repeated for a minimum of five (5) consecutive six (6) minute averaging periods at least twice per day during daylight operations, with at least four (4) hours between each set of readings until a COMS is on line. (3) Method 9 readings may be discontinued once a COM is online.</p> <p>(4) Any opacity exceedances determined by Method 9 readings shall be reported with the Quarterly Opacity Exceedances Reports.</p> <p>(5) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions and Exceedances. Observation of abnormal emissions that do not violate an applicable opacity limit is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions and Exceedances, shall be considered a deviation from this permit.</p> <p>(e) Nothing in this permit shall excuse the Permittee from complying with the requirements to operate a continuous opacity monitoring system pursuant to 326 IAC 3-5, (and 40 CFR 63).</p>
Comp. Determination	<p>D.2.10 National Emission Standards for Hazardous Air Pollutants from Coke Oven Batteries – Visible Emissions Inspection Requirements [40 CFR 63.309][326 IAC 20]</p> <p>(a) Pursuant to 40 CFR Part 63.309, except as otherwise provided, the Permittee shall conduct a performance test each day, 7 days per week, for each coke oven battery. The test results shall be used in accordance with procedures specified in 40 CFR Part 63 Subpart L to determine compliance with each of the applicable visible emission limitations in Condition D.2.3. If</p>

	<p>a facility pushes and charges only at night, then the facility must at its option, change their schedule and charge during daylight hours or provide adequate lighting so that visible emission inspections can be made at night. "Adequate lighting" will be determined by the enforcement agency.</p> <p>(1) Each performance test is to be conducted according to the procedures and requirements 40 CFR 63.309 and in 40 CFR 63, Appendix A, Method 303, or 40 CFR Part 60, Appendix A, Methods 9 and 22 (where applicable).</p> <p>(2) Each performance test is to be conducted by a certified observer.</p> <p>(3) The certified observer shall complete any reasonable safety training program offered by the Permittee prior to conducting any performance test at a coke oven battery.</p> <p>(4) Except as otherwise provided in paragraph (a)(5) of 40 CFR 63.309, the Permittee shall pay an inspection fee to the enforcement agency each calendar quarter to defray the costs of the daily performance tests required under paragraph (a) of 40 CFR 63.309.</p> <p>(A) The inspection fee shall be determined according to the following formula:</p> <p style="margin-left: 40px;"> $F = H \times S \text{ where}$ $F = \text{Fees to be paid by owner or operator.}$ $H = \text{Total person hours for inspections: 4 hours for 1 coke oven battery, 6.25 hours for 2 coke oven batteries, 8.25 hours for 3 coke oven batteries. For more than 3 coke oven batteries, use these hours to calculate the appropriate estimate of person hours.}$ $S = \text{Current average hourly rate for private visible emission inspectors in the relevant market.}$ </p> <p>(B) The Permittee shall not be required to pay an inspection fee (or any part thereof) under paragraph (a)(4) of 40 CFR 63.309, for any monitoring or inspection services required by paragraph (a) of 40 CFR 63.309 that the Permittee can demonstrate are covered by other fees collected by the enforcement agency.</p> <p>(C) Upon request, the enforcement agency shall provide the Permittee information concerning the inspection services covered by any other fees collected by the enforcement agency, and any information relied upon under paragraph (a)(4)(B) of 40 CFR 63.309.</p> <p>(5) The EPA shall be the enforcement agency during any period of time that a delegation of enforcement authority is not in effect or a withdrawal of enforcement authority under 40 CFR 63.313 is in effect, and the Administrator is responsible for performing the inspections required by this section, pursuant to 40 CFR 63.313(b).</p>
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	<p>(b) Within thirty (30) days of receiving notification from the Administrator that the EPA is the enforcement agency for a coke oven battery, the Permittee shall enter into a contract providing for the inspections and performance tests required under this section to be performed by a Method 303 certified observer. The inspections and performance tests will be conducted at the expense of the Permittee, during the period that the EPA is the implementing agency.</p> <p>(c) The enforcement agency shall commence daily performance tests on the applicable date specified in 40 CFR 63.300 (a) or (c).</p> <p>(d) The certified observer shall conduct each performance test according to the requirements in this paragraph:</p> <p>(1) The certified observer shall conduct one run each day to observe and record visible emissions from each coke oven door, topside port lid, and off take system on each coke oven battery. The certified observer also shall conduct five runs to observe and record the seconds of visible emissions per charge for five consecutive charges from each coke oven battery. The observer may perform additional runs as needed to obtain and record a visible emissions value (or set of values) for an emission point that is valid under Method 303 in appendix A 40 CFR Part 63. Observations from fewer than five consecutive charges shall constitute a valid set of charging observations only in accordance with the procedures and conditions specified in sections 3.8 and 3.9 of Method 303 in appendix A 40 CFR Part 63.</p> <p>(2) If a valid visible emissions value (or set of values) is not obtained for a performance test, there is no compliance determination for that day. Compliance determinations will resume on the next day that a valid visible emissions value (or set of values) is obtained.</p> <p>(3) After each performance test for a by-product coke oven battery, the certified observer shall check and record the collecting main pressure according to the procedures in section 6.3 of Method 303 in appendix A to 40 CFR Part 63.</p> <p>(A) The Permittee shall demonstrate pursuant to Method 303 in appendix A to 40 CFR 63 the accuracy of the pressure measurement device upon request of the certified observer;</p> <p>(B) The Permittee shall not adjust the pressure to a level below the range of normal operation during or prior to the inspection;</p> <p>(4) In no case shall the Permittee knowingly block a coke oven door, or any portion of a door for the purpose of concealing emissions or preventing observations by the certified observer.</p> <p>(e) Using the observations obtained from each performance test, the enforcement agency shall compute and record, in accordance with the</p>
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	<p>procedures and requirements of Method 303 in appendix A to 40 CFR Part 63, for each day of operations on which a valid emissions value (or set of values) is obtained:</p> <p>(1) The 30-run rolling average of the percent leaking coke oven doors, topside port lids, and off take systems on each coke oven battery, using the equations in sections 4.5.3.2, 5.6.5.2, and 5.6.6.2 of Method 303 in appendix A to 40 CFR Part 63;</p> <p>(2) For by-product coke oven battery charging operations, the logarithmic 30-day rolling average of the seconds of visible emissions per charge for each battery, using the equation in section 3.9 of Method 303 in appendix A to 40 CFR Part 63;</p> <p>(3) For a by-product coke oven battery subject to the small battery emission limitation for coke oven doors pursuant to 40 CFR 63.304(b)(7), the 30-run rolling average of the number of leaking coke oven doors;</p> <p>(f) The certified observer shall make available to the implementing agency as well as to The Permittee, a copy of the daily inspection results by the end of the day and shall make available the calculated rolling average for each emission point to The Permittee as soon as practicable following each performance test. The information provided by the certified observer is not a compliance determination. For the purpose of notifying an owner or operator of the results obtained by a certified observer, the person does not have to be certified.</p> <p>(g) Compliance shall not be determined more often than the schedule provided for performance tests under this section. If additional valid emissions observations are obtained (or in the case of charging, valid sets of emission observations), the arithmetic average of all valid values (or valid sets of values) obtained during the day shall be used in any computations performed to determine compliance under 40 CFR 63.309(d) or determinations under 40 CFR 63.306.</p> <p>(h) For a flare constructed to meet the requirements of 40 CFR 63.307(b):</p> <p>(1) Compliance with the provisions in 40 CFR 63.307(c) (visible emissions from flares) shall be determined using Method 22 in appendix A to 40 CFR Part 60, with an observation period of 2 hours; and</p> <p>(2) Compliance with the provisions in 40 CFR 63.307(b)(4) (flare pilot light) shall be determined using a thermocouple or any other equivalent device.</p> <p>(i) No observations obtained during any program for training or for certifying observers under this subpart shall be used to determine compliance with the requirements of this subpart or any other federally enforceable standard.</p>
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D.2.11 Visible Emission Inspections for Charging [326 IAC 11-3-4(a)]

(a) Pursuant to 326 IAC 11-3-4(a) and in order to demonstrate compliance with Conditions D.2.5(a) and D.2.4(b), the observations shall be made and the identity recorded from any point or points on the topside of a coke oven battery such that the observer can obtain an unobstructed view of the charging operation. The observer shall keep cumulative time of the total number of seconds charging emissions are visible. Time is started when a visible emission appears and is stopped when the visible emission expires. This procedure shall continue throughout the entire charging period. Visible emissions occurring simultaneously from two (2) or more separate points shall be timed as one (1).

(b) Visible emissions shall not be timed from:

- (1) Burning coal spilled on the top of the oven or oven lids during charging
- (2) Any equipment other than the charging system or charge ports.
- (3) Standpipes during charging.
- (4) Charge port lids and the standpipe on the oven most recently charged.
- (5) Coke oven doors which may be wind-blown across the topside of a coke oven battery.
- (6) Steam from uncombined water.

(c) The time retained is the total time visible emissions are observed during a charge and shall be recorded on a data sheet. If the observations of a consecutive set of five (5) charges are interrupted by an event not in the control of the observer, for example momentary interference by a passing quench car plume, then the data for the interrupted charge(s) shall be discarded and additional consecutive charges shall be observed. Five (5) charges observed as such shall be treated as consecutive charges.

(d) The observer shall discard the data for the charge observed, during each set, which contains the greatest cumulative total number of seconds during which emissions are visible. A set shall consist of the total number of consecutive charges read by the observer during any one (1) observation period, but in no event shall a set exceed twenty (20) consecutive charges.

D.2.12 Charge Port Lids and Off take Piping - Emissions Testing [326 IAC 11-3-4(b)]

Pursuant to 326 IAC 11-3-4(b) and in order to determine compliance with conditions D.2.5(b) and (c) and D.2.4(d) and (e), the observer shall walk the length of the topside of a coke oven battery, on a line down the middle of the battery, or as close as safety permits, to record the identity of standpipes in a single traverse and charge port lids in a single traverse that have any visible emissions.

(a) Visible emissions shall not be counted from:

- (1) Burning coal spilled on the top of the oven or oven lids.
- (2) Charge port lids and standpipe lids, from a maximum of three (3) ovens that are opened during a decarbonization period or charging period.

	<p>(3) The standpipe on an oven being charged.</p> <p>(4) Resulting from maintenance work.</p> <p>(5) Steam caused by the vaporization of wet luting material.</p> <p>(6) Steam from uncombined water.</p> <p>(b) Visible emissions from charge port lids shall include all emissions from the charge port casting/lid interface.</p> <p>(c) Visible emissions from the off take piping assembly shall include any leaks from the following:</p> <p>(1) Cracks and/or defects in the piping itself.</p> <p>(2) Flanged joints of any pipes, including the final joint with the collector main.</p> <p>(3) The standpipe base.</p> <p>(4) The standpipe lid or along its seal with the standpipe.</p> <p>(5) Off take piping assembly which is not contained in one (1) of the categories in this subdivision.</p> <p>D.2.13 Visible Emissions for Oven Doors [326 IAC 11-3-4(c)]</p> <p>(a) Pursuant to 326 IAC 11-3-4(c) and in order to demonstrate compliance with Conditions D.2.5(e) and D.2.4(a), an observer shall record the starting time of the inspection, then shall move steadily along the push-side or coke-side of a coke oven battery, stopping only to record the identity of any doors of ovens not temporarily or permanently taken out of service that have visible emissions, but not including visible emissions due to steam from uncombined water. The inspector shall have any of the following options:</p> <p>(1) To wait for any doors which are blocked from the inspector's view to become unobstructed.</p> <p>(2) To continue the inspection and return when the view of the doors becomes unobstructed.</p> <p>(3) To exclude the obstructed doors from the calculation of the total number of doors observed.</p> <p>(b) The finishing time of that inspection shall be recorded followed by the inspector repeating the same procedure on the opposite side of the same battery. The inspector shall be positioned either outside of the quench car tracks on the coke-side of the battery or outside of the push-side bench. After a brief scan of a coke oven door, the observer shall proceed in the inspection checking each succeeding door in a like manner.</p> <p>D.2.14 Visible Emissions Inspections for Gas Collector Main [326 IAC 11-3-4(e)]</p> <p>Pursuant to 326 IAC 11-3-4(e) and in order to determine compliance with conditions D.2.5(d) and D.2.4(f), the observer shall walk the length of the topside of the gas collector main, to record the number of points in a single traverse from which emissions are visible.</p>
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	<p>D.2.15 Visible Emissions Inspections Pushing [326 IAC 6.8-9-3(a)(3)]</p> <p>(a) Pursuant to 326 IAC 6.8-9-3(a)(3)(A) and in order to determine compliance with Condition D.2.4(c)(1), the opacity of emissions from the coke-side of an oven to be pushed, before the first movement of the coke from the oven to the coke car begins shall be determined on an instantaneous basis at the top of the battery. The observer shall be positioned outside of the quench car rails.</p> <p>(b) Pursuant to 326 IAC 6.8-9-3(a)(3)(B) and in order to determine compliance with Condition D.2.4(c)(2), the opacity of emissions from the pushing operations (begin with the first movement of coke from the oven into the coke car and to end when the quench car enters the quench tower), shall be determined using 40 CFR 60, Appendix A, Method 9, except the readings shall be taken at fifteen (15) second intervals. Six (6) consecutive readings shall be averaged to determine the opacity. The observer shall only use those backgrounds that are above the elevation of the battery surface. If this condition cannot be met for six (6) consecutive readings, then the opacity shall be determined using the lesser number of consecutive readings.</p> <p>D.2.17 Sulfur Fuel Sampling and Analysis [326 IAC 7-4.1-2)]</p> <p>To demonstrate compliance with condition D.2.7, the Permittee shall perform the Sulfur Fuel Sampling and Analysis in accordance with Section C - Sulfur Fuel Sampling and Analysis of this permit.</p> <p>D.2.18 Particulate Matter Control [326 IAC 2-7-6(6)]</p> <p>(a) Except as otherwise provided by statute, rule, or this permit, PM control shall be as follows:</p> <p>(1) The mobile scrubber cars 9119, 9120, 9121 and/or 9122 shall be in operation at all times, when the No. 2 and/or 3 Coke Batteries pushing processes are in operation to control particulate matter.</p> <p>(2) The baghouse CP3041 shall be in operation at all times, when the No. 5 and/or 7 Coke Batteries pushing processes are in operation, to control particulate matter.</p> <p>(b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.</p>
Record keeping	<p>Are required records on site? Yes</p> <p>Type of records checked: Underfire StackCOM Data, Sulfur Dioxide (SO₂) Reports, Natural Gas Usage Reports, Daily Visible Emission of Baghouse</p>

	Stack, Baghouse Daily Pressure Drop, Quarterly Reports, Dates or amount of records checked: 4 th Quarter 2006, 1 st Quarter 2007 Are records consistent with observations? Yes
Reporting	Have all required reports been submitted in a timely manner? Yes Are reports consistent with observations? Yes

7. Compliance Status:

There were four (4) violations of the State of Indiana Air Pollution Rules or this section of the company's permit observed or determined at the time of the inspection.

8. Additional Comments:

None

GENERAL SOURCE ISSUES:

1. Does the permit accurately represent the emission units observed? Yes
If no, explain) No permit has been issued
2. Have photographs documented violations? No
3. Were Pollution Prevention opportunities discussed? No
4. Per the source, are they required to have a Risk Management Plan? Yes
If yes, does the source have a plan? Yes
Have the employees been trained? Yes
5. Has the source submitted an acceptable Annual Compliance Yes
Certification for the current applicable year?

ADDITIONAL COMMENTS:

None

CONCLUSION:

There were four (4) violations of the State of Indiana Air Pollution Rules or this section of the company's permit observed or determined at the time of the inspection.

RECOMMENDATION:

I recommend referring these violations to the Office of Enforcement for violation of Rule 326 IAC 6.8-9-3(a)(1) and 326 IAC 6.8-9-3(c)(2) Lake County PM 10 Coke Battery Emission Requirements, perform routine inspections when in the area and inspect this source in FY2009.

EXIT INTERVIEW:

I reviewed my findings, recommendations, and conclusions with Kevin Davis prior to exiting the plant and left a draft copy of my sheets.

PUSHING EMISSIONS EVALUATION

Battery Number

2 ☒ 3 ☐ 5 ☐ 7 ☐

Company: U.S. STEEL, GARY WORKS
Address: 1 North Broadway
Gary, IN
Lake County

Date: 7/11/07
Observer's Name: DAVE SAMPIAS
Certification Date: 3-26-07

EMISSION POINT INFORMATION

Type: PUSHES
Est. Height:
Est. Distance from Observer:
Start: 75 yds Stop: SAME
Emission Color: W/A

Oven No: 12
Time Door Removed:
Maximum opacity
before first
movement of coke: 0843
COMMENTS: 34.16%

Opacity during
pushing operation

SEC MIN	0	15	30	45
0	0	80	100	20
1	3	0		
2				
3				
4				
5				

READING CONDITIONS

Approx. Wind Direction
Start: NW Stop: SAME
Est. Wind Speed
Start: 5-15 Stop:
Sky Condition
Start: partly cloudy Stop:
Color of Clouds
Start: white Stop:
Sky Color
Start: Blue Stop:
Plume Background/Color
Start: Stop:

Oven No: 14
Time Door Removed: 9:59 AM
Maximum opacity
before first
movement of coke: 1000
COMMENTS: 20.0%

Opacity during
pushing operation

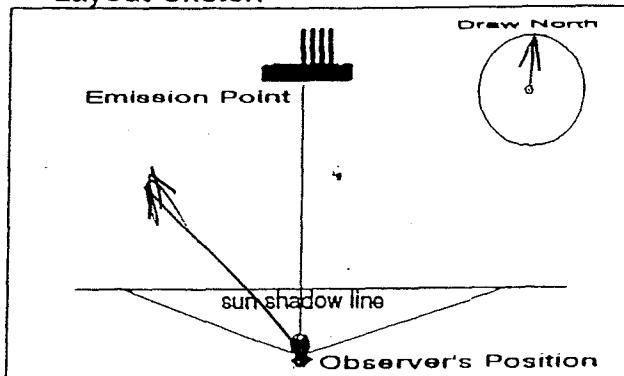
SEC MIN	0	15	30	45
0	0	60	40	20
1	0	0		
2				
3				
4				
5				

Oven No: 16
Time Door Removed: 1009
Maximum opacity
before first
movement of coke: 1011
COMMENTS: 25.0%

Opacity during
pushing operation

SEC MIN	0	15	30	45
0	0	75	50	25
1	0	0		
2				
3				
4				
5				

Layout Sketch



Oven No: 18
Time Door Removed: 1020
Maximum opacity
before first
movement of coke: 1022
COMMENTS: 36.67%

Opacity during
pushing operation

SEC MIN	0	15	30	45
0	0	100	100	20
1	0	0		
2				
3				
4				
5				

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
NORTHWEST OFFICE

COKE OVEN DOOR EMISSIONS EVALUATION

Battery Number

2 ☒ 3 ☐

Date: 2/11/07

Inspector's Name: DAVE SAMPIA'S

Company: U.S. STEEL, GARY WORKS

Sky Condition: _____

Address: 1 North Broadway
Gary, IN
Lake County

Ambient Temperature _____

Push Side Traverse Start Time 8:29 PM Stop Time 8:34 PM
 Coke Side Traverse Start Time 8:42 Stop Time 8:44

Oven No.	Push Side	Coke Side
1	<u>005</u>	
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		<u>✓</u>
13		<u>✓</u>
14		
15		
16		
17		
18		<u>✓</u>
19		
20		
21		
22	<u>005</u>	
23		
24		
25		
26		
27		
28		

Oven No.	Push Side	Coke Side
29		
30		
31	<u>✓</u>	
32		
33	<u>✓</u>	
34	<u>✓</u>	<u>B</u>
35	<u>✓</u>	
36	<u>✓</u>	
37	<u>✓</u>	
38		
39	<u>✓</u>	
40		
41		
42		
43		
44		
45		
46	<u>005</u>	
47	<u>005</u>	<u>B</u>
48	<u>005</u>	
49		
50		
51	<u>✓</u>	
52	<u>B</u>	
53		
54	<u>005</u>	
55		
56	<u>✓</u>	
57		

Total Number of Ovens: 57

Ovens Out of Service: 6

Number of Doors Not Observed: 17

No. Door Leaks
 No. Doors Observed X 100 = Percent Leakage

10
85 X 100 = 11.7 % Leakage

LIMIT PER 326 IAC 6-1-10.2 (c)(1)
 10% of the Observed Coke Oven Doors

Compliance Status: ☐ IN ☒ OUT

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
NORTHWEST OFFICE

COKE OVEN TOPSIDE EMISSIONS EVALUATION

Battery Number

2 ☒ 3 ☐

Ovens Out of Service: _____

Date: 7/1/07

Company: **U.S. STEEL, GARY WORKS**

Address: **1 North Broadway**

Gary, IN

Lake County

Inspector's Name: Joe Sampias

Sky Condition: _____

Ambient Temperature _____

¹⁰²⁰
OFF-TAKE PIPING

Oven No.	Off-take Piping		Oven No.	Off-take Piping	
	Push Side	Coke Side		Push Side	Coke Side
1	005		29		
2	0		30		
3			31		
4	0		32		
5			33		
6	0		34		
7			35		
8			36		
9			37		
10			38		
11			39		
12			40		
13			41		
14			42		
15			43		
16			44		
17			45	0	
18			46	005	
19			47	005	
20			48	005	
21			49		
22	005		50		
23			51		
24			52		
25			53		
26			54	005	
27			55		
28			56		
			57	0	

No. Leaking Offtakes 114 X 100 = Percent Leakage

114 X 100 = 0 % Leakage

Limit per 326 IAC 6-1-10.2 (c) (5)
5% of Total Off-take Piping

Compliance Status: ☒ IN ☐ OUT

^{1018 1020}
CHARGING PORT LIDS

Oven No.	Charging Port Lids				Oven No.	Charging Port Lids			
	No.1	No.2	No.3	No.4		No.1	No.2	No.3	No.4
1	005				29				
2					30				
3					31				
4					32				
5					33				
6					34				
7					35				
8					36				
9					37				
10					38				
11					39				
12					40				
13					41				
14					42				
15					43				
16					44				
17					45				
18					46	005			
19					47	005			
20					48	005			
21					49				
22	005				50				
23					51				
24					52				
25					53				
26					54	005			
27					55				
28					56				
					57				

No. of Lids Observed = 228 - (Ovens out of Service X 4)

= 228 - (_____ X 4)

= 228 - _____

No. Leaking Lids _____ X 100 = Percent Leakage

_____ X 100 = 0 % Leakage

Limit per 326 IAC 6-1-10.2 (c) (4)
3% of Lids on Operating Ovens

Compliance Status: ☒ IN ☐ OUT

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
NORTHWEST OFFICE

COKE OVEN CHARGING EVALUATION

Battery Number

2 ☒ 3 ☐ 5 ☐ 7 ☐

Date: 7/11/07

Company: U.S. STEEL, GARY WORKS

Address: 1 North Broadway

Gary, IN

Lake County

Inspector's Name: DAVE SAMPIAK

Sky Condition: _____

Ambient Temperature _____

Charging Observations

Oven No.	Start Time	Seconds of Emissions
41	9:29	4.5
43	9:37	5.5
49	9:48	5.0
51	9:58	3.5
53	10:02	4.5

Total Seconds for

Five Charges: 23.0

Oven No. Exempted: _____

LIMIT PER 326 IAC 6-1-10.2 (c)(2)

125 Seconds for 5 Consecutive Charges

Compliance Status: ☒ IN ☐ OUT

Pushing Observations



Date

7/11/07

Battery No.

2 5 7

Start Time

0707

Observer

Lorena Patterson

Finish Time

Oven No.	Door Removal hh:mm:ss	Push Time		Travel Time		Door Replaced mm:ss	Duration Time mm:ss	Push Opacity				Travel Opacity			
		Start hh:mm:ss	End mm:ss	Start mm:ss	End mm:ss			0	15	30	45	0	15	30	45
2	40 7:07	57 7:09	1:19 +79	1:19 79	0:58 +58	8:09 +	2:17 137	0	100	10	10	0	0	0	0
								5	5						
												Mact Avg.		13.00 %	
												IDEM Avg.		21.67 %	
4	40 7:22	55 7:22	1:03 +63	1:03 63	1:06 +66	7:54 +	2:09 129	0	15	10	5	0	0	0	0
								0							
												Mact Avg.		3.33 %	
												IDEM Avg.		25.00 %	
6	14 7:33	06 7:34	1:24 +84	1:24 84	0:59 +59	7:34 +	2:28 143	0	15	10	5	0	0	0	0
								0	0						
												Mact Avg.		3.00 %	
												IDEM Avg.		5.00 %	
8	28 7:43	18 7:45	1:32 +92	1:32 92	0:55 +55	7:52 +	2:27 147	0	20	15	5	0	0	0	
								0	0	0					
												Mact Avg.		4.00 %	
												IDEM Avg.		6.67 %	
10	47 7:54	55 7:58	1:27 +87	1:27 87	0:52 +52	6:32 +	2:19 139	0	15	10	5	0	0	0	0
								0	0						
												Mact Avg.		3.00 %	
												IDEM Avg.		5.00 %	
45	23 8:09	32 8:10	1:47 +107	1:47 107	1:05 +65	9:33 +	2:52 172	0	15	10	5	0	0	0	0
								0	0	0	0				
												Mact Avg.		2.50 %	
												IDEM Avg.		5.00 %	

Oven No. Of Door Removed Exceeding 20% Opacity Before Push

Passed (Extended) Oven Nos.:

Passed (Out of Service) Oven Nos.:

Passed (Green) Oven Nos.:

Other Comments:

Temperature

Wind Speed

Wind Direction

Humidity

Gas Cleaner

9121

9122

9119

Baghouse

Door Machine: East

West

Pushing Observations



Date

7-11-07

Battery No.

② 5 7

Start Time

0836 ⁴⁴

Observer

Johnson

Finish Time

1035 ⁰⁶

Oven No.	Door Removal hh:mm:ss	Push Time		Travel Time		Door Replaced mm:ss	Duration Time mm:ss	Push Opacity				Travel Opacity			
		Start hh:mm:ss	End mm:ss	Start mm:ss	End mm:ss			0	15	30	45	0	15	30	45
12	0836 ⁴⁴	0844 ³³	+103	103	+40	+317	143	0	10	40	40	0	0	0	
								10	0	0					
												Mact Avg.		10.00 %	
14	0959 ⁴⁰	1000 ⁵⁰	+80	80	+28	+475	108	0	0	30	25	0	0		
								15	0						
												Mact Avg.		8.75 %	
16	1010 ⁰⁹	1011 ³⁹	+80	80	+34	+428	114	0	0	20	20	0	0		
								10	0	0					
												Mact Avg.		6.25 %	
18	1017 ³⁴	1022 ³⁴	+108	108	+35	+414	143	0	15	50	40	0	0		
								15	0	0	0				
												Mact Avg.		12.00 %	
												IDEM Avg.		20.00 %	
												Mact Avg.		%	
												IDEM Avg.		%	
												Mact Avg.		%	
												IDEM Avg.		%	
												Mact Avg.		%	

Oven No. Of Door Removed Exceeding 20% Opacity Before Push

Passed (Extended) Oven Nos.:

Passed (Out of Service) Oven Nos.:

Passed (Green) Oven Nos.:

Other Comments:

Temperature

64°

Wind Speed

12

Wind Direction

NW

Humidity

65%

Gas Cleaner

9121

9122

9119

Baghouse

Door Machine: East

West



U.S. Steel Gary Works
Method 9 Criteria Determination
Pushing Observations

Date: 7-11-07

Battery No.: 27 5 7

Observer Name: JOHNSON

Time Begin: 0836⁴⁴

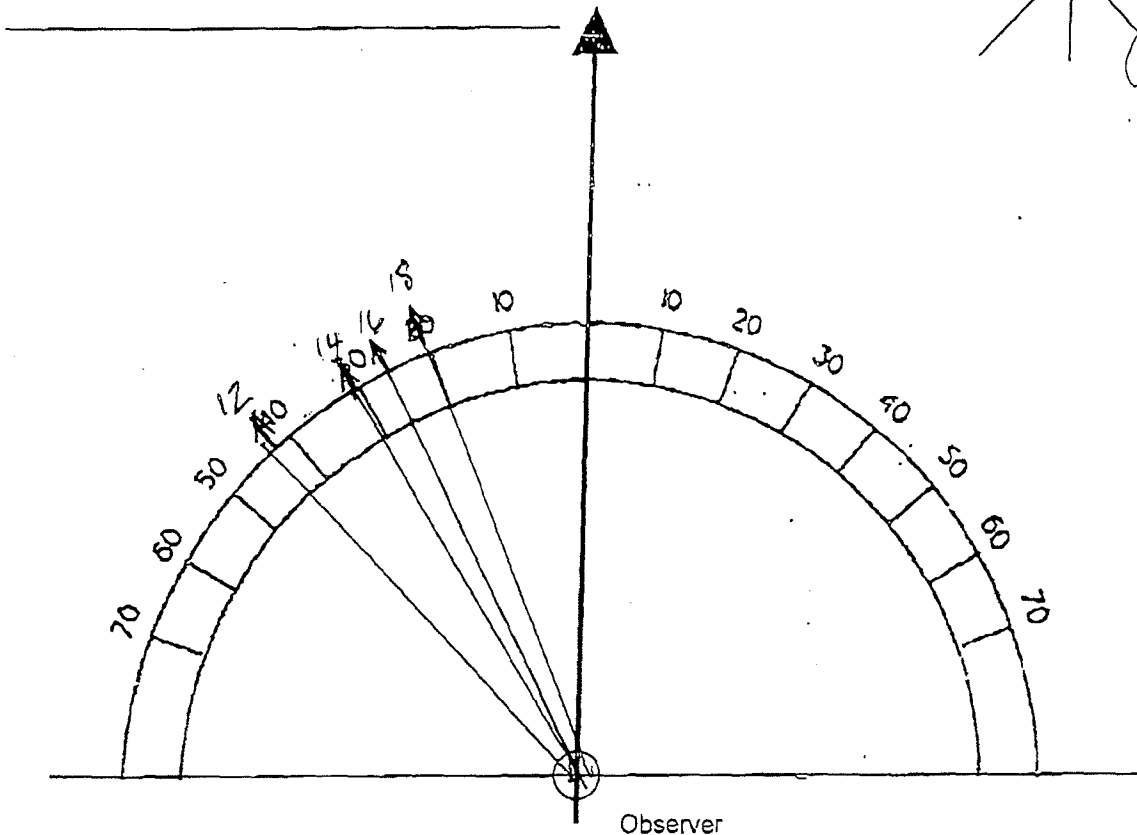
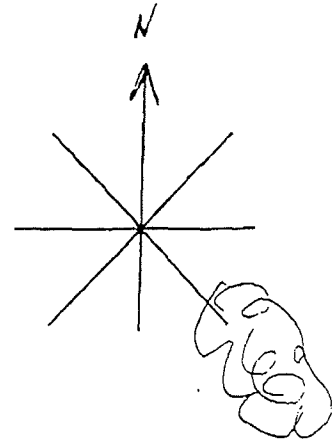
Time End: 1035⁰⁰



Source COKE SIDE

Overcast

No sun visible for Push on Oven Nos.



Signature: Johnson



Coke Battery Emission Inspection
Unit Inspection Summary
IDEM PM10 Standards

Date: 7-11-07

Battery No. 2

Battery Mgr. Munoz

Observer K. Davis

Inspection Parameter	Calculation Data	Inspection Results	Exceedance (Yes/No)
Door Inspection Limit - 10% Internal : 6M - 6.5 3M - 5.7	No. of Doors Observed - _____ No. of PS Doors Leaking - _____ No. of CS Doors Leaking - _____ Total Leaking Doors - _____ Total No. Doors Obs. - _____	_____% (Percent of Oven Doors Leaking)	
Collector Main Inspection Limit - No Visible Emissions	Total No. of Collector Main Leaks Observed _____	(Number of Collector main leaks observed)	
Charge Hole Lid Inspection Limit - 3% Internal : 0.8%	No. of Leaking Lids - <u>0</u> No. of Lids Observed - <u>188</u>	<u>0.00</u> % (Percent of Lids Leaking)	<u>NO</u>
Offtake Piping Inspection Limit - 5% Total Offtakes Internal : 3.8%	No. of Leaking Offtakes - <u>0</u> No. of Offtakes Observed - <u>92</u>	<u>0.00</u> % (Percent of offtakes leaking)	<u>NO</u>
At no time shall VE from any gooseneck cap exceed 20% opacity	No. of Leaking Gooseneck caps exceeding 20% opacity - <u>0</u> Oven No. _____	<u>0</u> (No. of open gooseneck caps exceeding 20% opacity)	<u>NO</u>
Charging Inspection PM ₁₀ Limit - 125 Seconds for five charges Internal : 105 Seconds	Seconds Emission Per Charge/ Oven No. 1. <u>9.0</u> <u>41</u> 2. <u>8.0</u> <u>43</u> 3. <u>8.0</u> <u>45</u> 4. <u>8.0</u> <u>51</u> 5. <u>7.0</u> <u>53</u> 6. _____ 7. _____ 8. _____ 9. _____ 10. _____	<u>39.0</u> Sec. (Total seconds of emission during five charges)	



USS Gary Works Coke Plant Oven Door Inspection Sheet

Battery Number

Date:

Observer:

Ovens in Battery

List Out of Service Ovens:

Task	Hrs
303-1	

Push Side

Coke Side

Start Time:

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77			

End Time:

Max Traverse Time

Actual Traverse Time

Valid Run

$$\dot{y} \quad n$$

Start Time:

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77			

End Time:

Max Traverse Time

Actual Traverse Time

Valid Run

$$\begin{array}{c} \textcircled{y} \end{array} \quad n$$
[illegible]

Summary

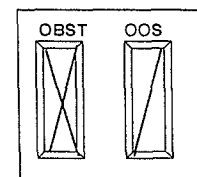
Total Leaking Doors:

Total Doors Observed:

Percentage: %

Legend: Darken Area of Leakage

X = Obstructed Door	/ = Out of Service
D = Door Leak	C = Chuck Door Leak
J = Jam Packing Leak	L = Lintel Leak

Back Pressure
Readings 2&3
Batteries .

East:

Center:

West:

Back Pressure
Readings 5&7
Batteries

	Push	Coke
East	Push East	Push West
West	Coke East	Coke West



U.S. Steel - Gary Works
Coke Battery
Topside Inspection Sheet
Lids

Task	Hrs
303-1	

Battery Number 2

Date: 7-11-67

Start Time:

2219³⁰

Max Traverse Time

228

(sec)

Observer: K. J. Davis

End Time:

2221³⁰

Actual Traverse Time

120

(sec)

Valid Run ?

☒ Y

N

Lid Number					Lid Number					Lid Number				
Oven	1	2	3	4	Oven	1	2	3	4	Oven	1	2	3	4
1	0	0	5		27					53				
2	0	0	0	0	28					54	0	0	5	
3					29					55				
4	0	0	0	0	30					56				
5					31					57	0	0	0	0
6	0	0	0	0	32					58				
7					33					59				
8					34					60				
9					35					61				
10					36					62				
11					37					63				
12					38					64				
13					39					65				
14					40					66				
15					41					67				
16					42					68				
17					43					69				
18					44					70				
19					45	0	0	0		71				
20					46	0	0	5		72				
21					47	0	0	5		73				
22	0	0	5		48	0	0	5		74				
23					49					75				
24					50					76				
25					51					77				
26					52									

Emission Legend

L Lid
LC L. Casting
OL Open Lid

Comments

Inspection Summary

Leaking Lids	0
Lids Observed	188
Percentage %	0.00

228
- 24

204
- 16

188



U.S. Steel - Gary Works
Coke Battery
Topside Inspection Sheet
Offtakes

Task	Hrs
303-1	

Battery Number 2

Date: 7-17-57

Start Time: 2222

Max Traverse Time 228 (sec)

Observer: K. Davis

End Time: 2224

Actual Traverse Time 120 (sec)

Valid Run ?

☒ Y

☐ N

Offtakes			Offtakes			Offtakes	
	Push	Coke	Oven	Push	Coke	Oven	Push
1	005		27			53	
2	005	00	28			54	005
3			29			55	
4	00	00	30			56	
5			31			57	00
6	00	00	32			58	00
7			33			59	
8			34			60	
9			35			61	
10			36			62	
11			37			63	
12			38			64	
13			39			65	
14			40			66	
15			41			67	
16			42			68	
17			43			69	
18			44			70	
19			45	00	00	71	
20			46	005		72	
21			47	005		73	
22	005		48	005		74	
23			49			75	
24			50			76	
25			51			77	
26			52				

Emission Legend

F	Flange
SJ	Slip Joint
C	Cap
OC	Open Cap
OCE	Instantaneous VE>20%
CJ	Collector Main Joint
B	Base

Inspection Summary

Leaking Offtakes	0
Offtakes Observed	92
Percentage %	0.00

114
-12
102
92

Comments

Collector Main Inspection

Start _____ # of Leaks _____

End _____



CHARGING INSPECTION

Task	Hrs
303-1	

Date: 7-11-07Battery # 2Observer: K. DavisStart Time: 2130⁵⁹Finish Time: 2217²²

Oven No.	Charge Began	Charge Ended	Dominant Emission Points	Larry Car In Use	Secs. Of Emissions
41	2130 ⁵⁹	2135 ⁵⁶	CP2+3	West	9.0
43	2140 ¹⁵	2146 ³⁸	CP2+3	West	8.0
49	2149 ⁴⁵	2156 ³⁴	CP2+3	West	8.0
51	2200 ⁴⁹	2206 ⁰²	CP2+3	West	7.0
53	2208 ⁴⁸	2217 ²²	CP2+3	West	7.0
				Total	39.0

Charge On Oven # _____ Exempt From Total (For PM 10 Only)

Comments:
